IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	)	Examiner: Havan, Thu Thao
Rising, et al.	)	Art Unit: 2672
Application No. 10/044,168	)	
Filed: October 22, 2001	)	
For: GRAPHICAL REWRITING SYSTEM FOR MULTIMEDIA DESCRIPTIONS	)	

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

This is an appeal to the Board of Patent Appeals and Interferences from the decision of the Examiner of Group 2672, dated May 17, 2004, in which claims 1-27 in the above-identified application were finally rejected. This Appeal Brief is hereby submitted pursuant to 37 C.F.R. § 41.37(a).

I. REAL PARTY IN INTEREST

The real party in interest is the assignee of the full interest in the invention, Sony Electronics, Inc., 1 Sony Drive, Park Ridge, New Jersey 07656.

II. RELATED APPEALS AND INTERFERENCES

To the best of Appellant's knowledge, there are no appeals or interferences related to the present appeal that will directly affect, be directly affected by, or have a bearing on the Board's decision in the instant appeal.

III. STATUS OF THE CLAIMS

Claims 1-27 are pending in the application and were finally rejected in the Office Action mailed May 17, 2004. Claims 1-27 are the subject of this appeal. A copy of Claims 1-27 as they stand on appeal are set forth in Appendix A.

IV. STATUS OF AMENDMENTS

No amendments to the claims have been made after receipt of the final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Appellant's invention as claimed in claims 1-27 is directed to the validation and modification of input graphs that represent description schemes for multimedia content, such as video streams. A graph is a logical structure of nodes and edges, in which the nodes represent entities in a description scheme, and the edges represent relationships among the entities. [Paragraph 8] The validation and modification are performed through graph matching and graph rewriting techniques that use pre-defined model graphs. An input graph is validated against a model template graph. Modification of an input graph is based on model alphabet, rule, and morphism graphs. The resulting graphs may represent queries against existing description schemes or new description schemes. [Specification: Paragraphs 13-17; Figure 1]

For simple graphs, graph matching attempts to match the nodes and edges of the input graphs with the nodes and edges of each of the template graphs [Paragraph 19; Figure 3A]. For more complex graphs, adjacency matrices that represent the input graph and the set of template graphs are used. For any graph, the corresponding adjacency matrix contains rows and columns labeled for the nodes of the graph, and a value in the matrix indicates whether an edge connects the two corresponding nodes. [Paragraphs 20-21; Tables 1-A and 1-B]

Graph rewriting is the process of combining graphs, replacing nodes with graphs, replacing edges with more complex configurations, and generating series of "production steps" to move from one graph to another. Graph rewriting techniques evaluate an input

graph against a set of alphabet graphs to find a match. Rules associated with the matching alphabet graph are applied to a input graph to modify it. [Paragraph 25; Figure 4] An alphabet graph specifies how an input graph is to be interpreted during the rewriting process [Paragraph 17] Each rule is represented by a rule graph, and a set of morphism graphs that represent mappings between graphs [Paragraph 28]. The rules may be applied using a pushout or a pullback operation. A pushout operation combines two graphs together based on their common elements. A pullback operation takes the elements of two graphs that map to elements in a third graph and computes all the combinations of these elements [Paragraphs 29-30; Figures 5A and 5B].

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

I. Claims 1-27 stand rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,278,462 to Weil et al.

VII. ARGUMENTS

I. Claims 1-27 are Patentable under 35 U.S.C. § 102(e) over U.S. Patent No. 6,278,462 to Weil et al.

Weil discloses graphical schemes that may be applied to components within an electronic composition, such as a document or web page, to affect the display of the composition on a computer display. Attributes of the components, such as fonts, colors, etc., are set to the values specified in the scheme, and the values may be stored in slots in a table. Schemes may be created according to pre-defined templates.

Appellant respectfully submits that the Examiner is interpreting Appellant's claims incorrectly, and also is misinterpreting Weil in order to find that Weil anticipates Appellant's invention as claimed in claims 1-27.

In response to the first Office Action, Appellant pointed out that the word "graph" is a term of art well understood as meaning a structure of nodes and edges, and that the term "graphics" as used in Weil, as well as in the art, means the display of images on a computer screen. Appellant argued a graphics scheme for a computer display is not the same as a graph of nodes and edges as commonly understood in the art and as defined in Appellant's Specification. Although the Examiner is required to interpret the claims

according to their common definition and in light of the Specification, Appellant amended the preamble of the independent claims to specify that the claimed graph had nodes representing entities and edges representing relationships among the entities because of the apparent confusion of the Examiner over this point. In the final Office Action, the Examiner asserted that the preamble is not limiting. However, Appellant respectfully submits that the preamble is limiting when it defines the structure of the claimed invention. Here, the preamble defines the structure of the claimed graphs and therefore must be considered as limiting the interpretation of the claims.

Moreover, Appellant respectfully submits that the Examiner has not considered all the limitations of the claims that distinguishes Appellant's invention from Weil as follows.

A. Claims 1, 10 and 19

Claims 1, 10 and 19 stand or fall together. Claim 1 is the representative claim. The invention claimed in claim 1 compares an input graph representing a description scheme for multimedia content with a set of template graphs, and validates the input graph when there is a match.

The Examiner asserts that the slots in Weil's table can define a box, which the Examiner states is a graph, and that the box could have particular attributes assigned to it, such as a graphical border to represent its edges when it is displayed. However, the edges of a box are not equivalent to edges in a graph that represent relationships among entities corresponding to nodes in the graph. Furthermore, a box drawn on a computer display would typically be categorized as a computer graphic by one of skill in the art, not as a graph as defined in the art and in Appellant's Specification. In fact, Weil consistently uses the terms "graphic" and "graphics" to describe his invention. Although Appellant pointed out that the terms "graphic(s)" and "graph" are not equivalent, the Examiner continues to interpret the terms as interchangeable, contrary to the well-known teaching of the art.

Furthermore, the Examiner has improperly equated Weil's graphic color scheme to Appellant's description scheme for multimedia content. The term "description scheme" has a well-defined meaning in the art of digital multimedia content. In

particular, a description scheme describes relationships among descriptors that define the various features of multimedia content. A description scheme may also describe relationships among descriptions and other description schemes, and among multiple description schemes. Furthermore, a description scheme captures the structure and semantics among its components. The components and their relationships in a description scheme may be represented as an abstract mathematical graphical construct of nodes and edges. Appellant respectfully submits that the Examiner is required to interpret Appellant's claims in light of this definition, and therefore Weil neither teaches nor suggests a graph that represents the relationships among the components in a description scheme as defined in the art and in Appellant's specification.

Accordingly, Appellant respectfully submits that the invention claimed in claims 1, 10 and 19 is patentable under 35 U.S.C. § 102(3) over Weil.

B. Claims 2, 5, 11, 14, 20 and 23

Claims 2, 5, 11, 14, 20 and 23 stand or fall together. Claim 2 is the representative claim. Claim 2 further defines the comparing process of claim 1 as graph matching. As described in Appellant's Specification, graph matching compares nodes and edges of an input graph with a template graph. Because Weil does not teach or even suggest a graph that represents a description scheme for multimedia content as claimed, Weil cannot be properly interpreted as disclosing Appellant's claimed graph matching.

Accordingly, Appellant respectfully submits that the invention claimed in claims 2, 5, 11, 14, 20 and 23 is patentable under 35 U.S.C. § 102(3) over Weil.

C. Claims 3, 6, 12, 15, 21 and 24

Claims 3, 6, 12, 15, 21 and 24 stand or fall together. Claim 3 is the representative claim. Claim 3 claims creating adjacency matrices for the input graph and the set of template graphs to be used in the comparison of claim 2. As stated above, an adjacency matrix represents nodes as rows and columns, and edges as values in the matrix. Weil's attribute table cannot be properly consider equivalent to Appellant's adjacency matrix because Weil does not teach or suggest the rows and columns of his table represent nodes in a graph that represents a description scheme for multimedia content as claimed and that the value of a slot indicates whether an edge connects two nodes in the graph.

Accordingly, Appellant respectfully submits that the invention claimed in claims 3, 6, 12, 15, 21 and 24 is patentable under 35 U.S.C. § 102(3) over Weil.

D. Claims 4, 13 and 22

Claims 4, 13 and 22 stand or fall together. Claim 4 is the representative claim. The invention claimed in claim 4 evaluates a input graph against a set of alphabet graphs, and applies a rule associated with a matching alphabet graph to the input graph. Claim 4 further claims that the rule is represented by a rule graph and a set of morphism graphs.

Appellant respectfully submits that the Examiner is incorrectly equating a "ruling specification" disclosed in Weil that specifies how to draw a line on a computer display with Appellant's rules that are applied to an input graph of nodes and edges that represent a description scheme for multimedia content. Furthermore, the Examiner has pointed to no disclosure in Weil that teaches or even suggests Appellant's claimed alphabet graphs and morphism graphs. It appears that the Examiner has omitted these claim limitations when interpreting Appellant's claims.

Accordingly, Appellant respectfully submits that the invention claimed in claims 4, 13 and 22 is patentable under 35 U.S.C. § 102(3) over Weil.

E. Claims 7, 16 and 25

Claims 7, 16 and 25 stand or fall together. Claim 7 is the representative claim. Claim 7 claims that the applying of a rule in claim 4 comprises a pushout operation. A pushout is an algebraic graph grammar operation as known in the art and defined in Appellant's Specification. Since Weil contains no disclosure related to algebraic graph grammars, Weil cannot be properly interpreted as teaching or suggesting Appellant's claimed pushout operation.

Accordingly, Appellant respectfully submits that the invention claimed in claims 7, 16 and 25 is patentable under 35 U.S.C. § 102(3) over Weil.

F. Claims 8, 9, 17, 8, 26 and 27

Claims 8, 9, 17, 18, 26 and 27 stand or fall together. Claim 8 is the representative claim. Claim 8 claims that the applying of a rule in claim 4 comprises a pullback operation. A pullback is an algebraic graph grammar operation as known in the art and

defined in Appellant's Specification. Since Weil contains no disclosure related to algebraic graph grammars, Weil cannot be properly interpreted as teaching or suggesting Appellant's claimed pullback operation.

Accordingly, Appellant respectfully submits that the invention claimed in claims 8, 9, 17, 18, 26 and 27 is patent under 35 U.S.C. § 102(3) over Weil.

VIII. CONCLUSION

Weil does not teach each and every limitation of Appellant's invention as claimed in claims 1-27. Therefore, Appellant respectfully requests the Board reverse the rejections of claims 1-27 under 35 U.S.C. § 102(3) and direct the Examiner to enter a Notice of Allowance for claims 1-27.

Fee for Filing a Brief in Support of Appeal

Enclosed is a check in the amount of $ 500.00 to cover the fee for filing a brief in support of an appeal as required under 37 C.F.R. §§ 1.17(c) and 41.37(a).

Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Appellant hereby requests such extension.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: Dec. 16, 2004

Sheryl Sue Holloway
Attorney for Appellant
Registration No. 37,850

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-8300 x309